# FINANCIAL ASSISTANCE
# FUNDING OPPORTUNITY ANNOUNCEMENT

**U.S. Department of Energy**
**Golden Field Office**

**Solar America Initiative (SAI)**

**Market Transformation: Solar Codes and Standards**

**Funding Opportunity Number: DE-PS36-07GO97005**

**Announcement Type: Initial**

**CFDA Number: 81.117**

**Issue Date:** **10/11/2006**

**Application Due Date:** **12/12/2006, 11:59 PM Eastern Time**

Note: The Grants.gov Customer Support Desk closes at 9:00 PM Eastern Time.

# NOTE: REQUIREMENTS FOR GRANTS.GOV

**Where to Submit**
Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually. If you have any questions about your registration, you should contact the Grants.gov Helpdesk at 1-800-518-4726 to verify that you are still registered in Grants.gov.

**Registration Requirements**
There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov). See http://www.grants.gov/GetStarted. Use the Grants.gov Organization Registration Checklist at http://www.grants.gov/assets/OrganizationRegCheck.doc to guide you through the process. Designating an E-Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in the CCR registration process. Applicants, who are not registered with CCR and Grants.gov, should allow at least 21 days to complete these requirements.

**IMPORTANT NOTICE TO POTENTIAL APPLICANTS: When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).**

**Questions**
Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. Part VIII of this announcement explains how to submit other questions to the Department of Energy (DOE).

**Application Receipt Notices**
After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to 2 business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

Number 1 – Grants.gov Submission Receipt Number
Number 2 – Grants.gov Submission Validation Receipt for Application Number
Number 3 – Grants.gov Grantor Agency Retrieval Receipt for Application Number
Number 4 – Grants.gov Agency Tracking Number Assignment for Application Number
Number 5 – DOE e-Center Grant Application Received

The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to: Number 5 – DOE e-Center Grant Application Received and Matched. This email

will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

**VERY IMPORTANT – Download PureEdge Viewer**

In order to download the application package, you will need to install PureEdge Viewer. This small, free program will allow you to access, complete, and submit applications electronically and securely. For a free version of the software, visit the following web site: http://www.grants.gov/DownloadViewer.

# TABLE OF CONTENTS

# PART I – FUNDING OPPORTUNITY DESCRIPTION

## A. OVERVIEW

In January 2006, the President announced his Advanced Energy Initiative, which "provides for a 22-percent increase in funding for clean-energy technology research at the Department of Energy. To change how we power our homes and offices, we will invest more in zero-emission coal-fired plants, revolutionary solar and wind technologies, and clean, safe nuclear energy."[1]

An integral part of this Initiative is the U.S. Department of Energy's (DOE's) *Solar America Initiative* (SAI). The goal of the SAI is to reduce the cost of solar photovoltaic technologies so that they become cost-competitive by 2015. The SAI represents a significant enhancement of DOE's business strategy of partnering with key stakeholders to accelerate commercialization of photovoltaic (PV) system R&D to meet aggressive cost and installed capacity goals. To learn more about SAI, review information at:
http://www1.eere.energy.gov/solar/solar_america/index.html

To implement the SAI, the DOE will pursue an R&D strategy that is segmented into three manageable three-year phases. These phases will progressively reduce the cost of commercially-available PV systems and components, and will ultimately yield commercial products and production processes that achieve the energy cost goals and support installed capacity targets of 5-10 gigawatts by 2015.

To complement the R&D and testing/evaluation activities that are the backbone of the SAI, the DOE will conduct Market Transformation[2] (MT) efforts, with a mission to reduce market barriers and promote market expansion of solar energy technologies through non-R&D activities. MT activities fall into two areas: 1) activities which provide technical, regulatory, institutional, financial and educational solutions to market transformation barriers; and 2) those which accelerate demand for new solar technologies primarily through provision of technical assistance.

There are several aspects to SAI that define it as a new approach for DOE and should be kept in mind by applicants in formulating applications:

- *SAI MT is looking to identify and remove market barriers.* Through its infrastructure development activities, DOE is seeking to identify and minimize or remove barriers to solar technology commercialization as quickly and efficiently as possible.
- *SAI MT is looking for significant market changing activities.* Given the proximity of the 2015 goal, DOE is seeking to make large and significant changes in the marketplace through its MT activities.
- *SAI MT is focused on near- and mid-term results*. Accordingly, emphasis will be on projects and activities with the greatest potential to assist the DOE in reaching its SAI cost-competitiveness goal by 2015.

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[1] President George W. Bush, *Advanced Energy Initiative*, The White House National Economic Council, Feb. 2006.

[2] "Market Transformation" was formerly referred to as "Technology Acceptance" in DOE documents and events leading up to the issuance of this Funding Opportunity Announcement. The two terms are synonymous for purposes of this FOA.

- *SAI MT is looking for performers and partners who are committed to the SAI mission.* In order to achieve the SAI mission of 2015, DOE is inclined to partner and work with motivated entities who will also benefit from achievement of the SAI mission.

Solar technologies addressed under this Funding Opportunity Announcement (FOA) include photovoltaics (PV), concentrating solar power (CSP), and solar water/air heating technologies (SWAH).

**This Funding Opportunity Announcement (FOA) is divided into three (3) Topic Areas that support the Market Transformation mission, and therefore the mission of the SAI.**

**Topic Area 1: Solar Codes and Standards Working Group Leadership**

- The Topic Area objective is to create and operate a national working group to address solar codes and standards issues of importance to DOE and the success of SAI. Sample work includes recommending or developing model codes and standards and assisting in their implementation, developing codes and standards study areas, and staying vigilant to developing codes and standards issues.

**Topic Area 2: Experience-Based Utility PV Capacity Credits**

- The Topic Area objective is to develop a system to value capacity credits that will be accepted by utilities and utility policy makers to measure system benefits of PV.

**Topic Area 3: National Voluntary PV Module Performance Rating System**

- The Topic Area objective is to create a nationally-recognized voluntary photovoltaic module rating system approved through IEEE, IEC and/or UL channels.

**Applicants may submit applications under one or more Topic Areas with the following restrictions:**
**1) An applicant may not submit an application that covers more than one technical Topic Area. Separate applications must be submitted for separate technical Topic Areas; and**
**2) In each Topic Area, an eligible entity may only participate in one (1) application, either as the primary applicant or as a team partner.**

Awards under this FOA will be cooperative agreements between DOE and the Recipient, with a project duration of one to five years, beginning in FY2007. Cooperative agreements allow DOE to exercise substantial involvement in the execution of projects. Multi-year cooperative agreements are expected to be funded through annual budget periods to coincide with major milestones or decision points. At the completion of each successive milestone or budget period review, DOE will determine whether to approve continuation of a project into the next budget period.

Subject to annual congressional appropriations, the total cumulative DOE funding available under this FOA for **all** three Topic Areas is estimated to be approximately $7.3 million. The total value of all projects funded in FY07 under this FOA will be approximately $2.3 million. DOE anticipates issuing future FOAs on related matters in FY08 and on annual or regular bases thereafter.

No cost share is required for any of the Topic Areas within this FOA.

DOE anticipates concurrently issuing other Market Transformation FOAs and other instruments to implement the SAI. Other SAI FOAs can be viewed at Grants.gov. Project awards made from those FOAs come with DOE funding, separate from the amounts listed above.

## B. DESCRIPTIONS OF TOPIC AREAS IN THIS ANNOUNCEMENT

### Topic Area 1: Solar Codes and Standards Working Group Leadership

DOE seeks to create a Solar Codes and Standards Working Group (SCSWG), a central coordinating body to address solar codes and standards issues. Recipient(s) under Topic Area 1 shall lead the SCSWG and preside over its activities. Below are some of the foreseeable activities of the SCSWG and the role that Recipient(s) will play as the leader and organizer of that group. The SCSWG is intended to serve all solar constituencies, and not only act as a committee or other entity to provide guidance to DOE.

(1) Recipient(s) shall organize and coordinate the meetings and activities of the SCSWG. The SCSWG shall meet on a regular basis at scheduled times and locations convenient to the membership of the group. Membership in the SCSWG will include DOE, the National Renewable Energy Laboratory (NREL), Sandia National Laboratories (SNL), and will be open to voluntary representatives from State and local governments, regional organizations, associations, standard-setting organizations, manufacturers, other laboratory personnel, and other interested stakeholders. Also, the SAI Technology Pathway Partnership (TPP) award recipients are required to nominate a representative to serve on the SCSWG. With respect to the SAI TPP award recipients and the voluntary representatives, the Recipient(s) of this FOA shall be responsible for nominating, contacting, and selecting members to serve on the SCSWG after Recipient(s) is selected, in conjunction with input from DOE, NREL and SNL. Recipient(s) will be responsible for all logistics, operations and costs related to the hosting of the meetings, but not including the arranging or provision of funds for travel and lodging for other SCSWG members, whose participation is voluntary.

(2) The main role of the SCSWG will be as a central body to address, as appropropriate, all solar codes and standards issues that are encountered by DOE, DOE contractors, partners, award recipients and stakeholders. The SCSWG will be expected to provide advice and guidance on such issues and questions. Recipient(s) will be responsible for fielding these issues, presenting them to the full SCSWG in a format acceptable to the entire group, capturing the recommendations made by the SCSWG, formatting these recommendations into a report, and presenting such information to stakeholders, as well as to DOE or to another DOE-designated entity.

Recipient(s) will also be responsible for disseminating such information to a broader audience, depending on the nature of the material. Recipient(s) will also produce communications materials, such as brochures, capturing key results and tools developed by the SCSWG. The exact protocols and procedures for presenting issues to the SCSWG for consideration will be determined after award.

In some instances, it will be required for the SCSWG to obtain data or information from another source in order to make a recommendation or finding. Recipient(s) will be responsible for identifying the correct resource, obtaining the data (including all costs involved), and presenting that information to the SCSWG.

In addition, the SCSWG will, on a regular basis, publish results and reports on topical areas when appropriate. Recipient(s) shall be responsible for the payment of all costs associated with such products of the SCSWG, including dissemination to targeted audiences. Quarterly and annual reports or newsletters containing results of the SCSWG work, will be written and disseminated by the Recipient(s).

(3) Even with model interconnection standards in place, new technologies and varied applications will create the need for further studies to ensure safety, reliability and performance. In addition to leading the SCSWG, Recipient(s) will be responsible for conducting or supervising the completion of codes and standards study areas. Initial study areas focused on interconnection standards, net metering, locals codes issues and product safety standards are presented in this FOA; these codes and standards study areas are expected to be one-year in duration. Applications are solicited that fully define plans for addressing these study areas. Please note that with SCSWG guidance and approval, the study areas may be redirected after awards are in place.

(4) Recipient(s) will be responsible for building and maintaining the SCSWG website, which will serve as a central repository for solar codes and standards information. Further details of the contents of such a website are included later in this FOA.

SCSWG will serve as a centralized Federal clearinghouse to assist state and other regulating and inspection bodies in adopting best practices, guiding stakeholders in understanding the state of progress on specific objectives, and in verifying the adequacy of particular equipment and installation methods. SCSWG will promote "best practices" in standards and code requirements and work with utilities and State and Local jurisdictions to standardize interconnection and installation requirements for PV systems connected to the utility grid. The SCSWG will provide clarity and certainty to states in adopting codes and standards without requiring individual states to adhere to any particular set of codes and standards. It will also provide input into the modification of national codes, such as the National Electrical Code. It will address both component and system codes and standards.

The SCSWG is intended to continually improve the interconnection and net metering standards and policies across the nation, while setting examples for States, cities, and utilities to establish their own best practices. The accomplishments from earlier DOE work supporting the development of the National Association of Regulatory and Utility Commissioners (NARUC) model interconnection standard and Million Solar Roofs can be built upon and improved. Over time, such support will result in greater national consistency and uniformity of codes and standards across the nation. The SCSWG is intended as the primary, centralized body to address solar issues on interrelated regulatory topics of net metering, interconnection standards, and tariff structures (e.g., time-of-use (TOU) rate impacts on PV utilization and standby costs for larger installations that do not qualify for net metering).

The use of such a central coordinating body will ease the transition of all interested parties – from manufacturers to local jurisdictions – with a clear and meaningful mission statement that is not in conflict with the operations of DOE and its National Laboratories, the Interstate Renewable Energy Council (IREC), or other sources of news, science and information. It should not duplicate any existing efforts, but should be orchestrated to help accelerate development of clear, accurate, and practical standards.

**Topic Area 2: Experience-Based Utility PV Capacity Credits**

Based on utility experience with specific, selected systems, the approach in this Topic Area will support the development and adoption of specific capacity credit[3] values or other utility-

[3]A capacity credit for a PV system is a measure of the system's ability to effectively add to a utility's generation capacity and enhance utility system reliability. The "effective load carrying capacity (ELCC)" of a PV system represents its ability to

approved values for system benefits of PV. This will require working closely with utility-based PV projects, coordination of data gathering and operations with the utility system and distribution planners, and ultimately the development of cost-based proposals for adoption by utility management. Additionally, the Topic Area will require the collaborative development of relevant parameters and other system and utility characteristics needed to quantify the ability of PV systems connected to the utility grid to add to a utility's capacity, meet peak demand and to develop specific and integrated rate, rebate, net metering, and interconnection approaches to optimally capture such benefits.

Experience has shown that innovative approaches to integrating distribution system design, time-based dynamic tariffs, modern meters, and smart grid capability can increasingly be utilized to recognize the true value of PV. Consistent, widely-acceptable methodology for calculating capacity credit values for PV systems (based on location, resource patterns, system load profile, and other parameters) have been shown to overcome the concerns of utilities with the intermittency of PV. The main deliverable under this Topic Area will be a report, paper, software product or other medium that contains the methodology to be used for calculating capacity credit values for PV systems of widespread use to utilities and other solar stakeholders.

**Topic Area 3: National Voluntary PV Module Performance Rating System**

The main focus of this Topic Area is the creation of a national voluntary PV module rating standard, including performance, reliability, safety, anticipated degradations and operational limits (such as maximum operational voltage) and the establishment of testing procedures and protocols for its use. The purpose of the Topic Area is to increase consumer confidence in PV module performance by bringing actual module performance in line with module nameplate ratings. Benchmarking has shown that current Standard Test Conditions (STC) ratings are insufficient and often result in inaccurate predictions of module energy output under real world conditions. Recipient(s) will develop a performance rating system that is a more accurate predictor of real world module performance. This will also work to reduce the practice of manufacturer "binning," at least in terms of products that are sold within the U.S., which can result in PV manufacturers selling modules that perform at up to 10% below their stated nameplate specifications.

DOE concluded that it is best for an independent third-party Recipient(s) to be responsible for the oversight of the module testing and ratings rather than DOE itself or the States, a decision strongly supported by respondents to the April 27, 2006 Request For Information (RFI).

DOE emphasizes that this rating system is intended to be entirely voluntary at the Federal level, and is being created to improve consumer confidence in PV products, as well as improve consistency of performance, to the benefit of the PV industry as a whole. There is no intention by DOE to make this standard mandatory by Federal regulation or proposed legislation at this time. States may choose to adopt the resulting performance standard as a mandatory requirement but that is beyond the scope of this effort.

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effectively increase the generating capacity available to a utility or a regional power grid without increasing the utility's loss of load risk (Garver, 1966). For instance, a utility with a current peaking capability of 2.5 GW could increase its capability 2.55 GW with the same reliability by adding 100 MW PV, provided the ELCC of the 100 MW PV is 50 MW, or in relative terms, 50%. [Ref: Garver, L.L., (1966): Effective Load Carrying Capability of Generating Units. IEEE Transactions, Power Apparatus and Systems. Vol. Pas-85, no.8]

As part of the effort under this Topic Area, Recipient(s) must work to determine whether the purposes of a voluntary module performance rating system could be achieved without conducting a full-blown IEEE/IEC standard formation process by simply working to lower the tolerances within national module safety standards. If Recipient(s) works to lower those tolerances to a level that achieves the same purposes as the voluntary performance standards, Recipient(s) will be expected to follow that less-costly pathway to achieving program goals.

The Recipient(s) will also be required to ensure that test procedures developed under this Topic Area include sufficient objective and measurable performance metrics in case the Department chooses to pursue an Energy Star rating for PV modules in the future.

In terms of *performance*, ratings should be based upon actual module testing for the most accurate results, rather than parametric or other estimators, so a laboratory testing facility is needed. Testing should add little or no additional costs to the products, be easy to implement, and should have wide acceptance by States, utilities and international bodies. It is the responsibility of the Recipient(s) to achieve that acceptance. In order to achieve the most accurate testing conditions, the rating system should employ a random sample testing of modules delivered from distributors, integrators, installers, customers, utilities, and State agencies.

In terms of *reliability*, the performance rating system should account for normal deterioration of modules, including light-induced degradation (LID). LID can be a critical factor in the performance of a system, and should be within a certain acceptable range to warrant a Federal designation. In addition, the rating system should incorporate a review of the manufacturer's warranty for completeness and include a minimum warranty period for Federal certification.

In terms of *safety*, industry safety codes are evolving documents and current requirements will be prerequisites to a Federal rating designation.

## PART II – AWARD INFORMATION

### A. TYPE OF AWARD INSTRUMENT.

- DOE anticipates awarding cooperative agreements under this program announcement (See Part VII.B.2 Statement of Substantial Involvement)

### B. ESTIMATED FUNDING.

- Approximately $2.3 million is expected to be available for new awards in FY 2007 and an additional $5.0 million is expected to be available for awards made under this announcement in years FY2008 through FY2011. Each year, the actual level of funding, if any, depends on the appropriations for this program.

### C. ESTIMATED MAXIMUM AND MINIMUM AWARD SIZE.

| Topic Area | Ceiling | Floor |
|---|---|---|
| Solar Codes & Standards Working Group Leadership | $4,200,000 | $500,000 |
| Experience-Based Utility PV Capacity Credits | $100,000 | $25,000 |
| National Voluntary PV Module Performance Rating System | $3,000,000 | $500,000 |

### D. EXPECTED NUMBER OF AWARDS.

- Under this announcement, DOE expects to make the following number of awards for each Topic Area:

| Topic Area | Number of Awards |
|---|---|
| Solar Codes and Standards Working Group Leadership | 1-2 |
| Experience-Based Utility PV Capacity Credits | 1-2 |
| National Voluntary PV Module Performance Rating System | 1-2 |

NOTE: The number of awards made in each Topic Area and the award size will depend on the availability of appropriated funds, the distribution of funds for selections in each Topic Area based on portfolio management considerations, Merit Review Committee results and the application of Program Policy Factors.

### E. PERIOD OF PERFORMANCE.

- The anticipated period of performance for projects under each Topic Area in this announcement is shown below. The overall project duration will be subdivided into annual budget periods. Each project is expected to be funded through *annual* budget periods to coincide with DOE decision points, where project continuation into a subsequent budget period is contingent upon satisfactory performance in each budget period and funding availability.

| Topic Area | Award Period of Performance |
|---|---|
| Solar Codes and Standards Working Group Leadership | 5 years |
| Experience-Based Utility PV Capacity Credits | 1 year |
| National Voluntary PV Module Performance Rating System | 3 years |

## PART III - ELIGIBILITY INFORMATION

### A. ELIGIBLE APPLICANTS.

- In accordance with 10 CFR 600.6(b), eligibility for award is restricted as follows:
    - All types of domestic, U.S.-owned entities are eligible to apply, except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. Refer to Part III.Section C. for additional eligibility requirements regarding FFRDCs.

### B. COST SHARING.

- Cost sharing is not required (Refer also to Part VI.A.3 Other Selection Factors).

### C. OTHER ELIGIBILITY REQUIREMENTS.

- **Federally Funded Research and Development Center (FFRDC) Contractors**.

  The National Renewable Energy Laboratory (NREL) and Sandia National Laboratories (SNL) are receiving separate DOE funding for their involvement with SAI MT activities, so they will not be allowed to submit an application as a primary recipient, participate as a team partner, or assist any Applicant in applying in any way under this FOA.

  FFRDC contractors are not eligible for an award under this announcement, but FFRDCs, other than NREL and SNL, may be proposed as a team partner on another entity's application subject to the following guidelines:

  Authorization for non-DOE FFRDCs. The Federal agency sponsoring the FFRDC contractor must authorize in writing the use of the FFRDC contractor on the proposed project and this authorization must be submitted with the application. The use of a FFRDC contractor must be consistent with the contractor's authority under its award and must not place the FFRDC contractor in direct competition with the private sector. Save the authorization in a single file named "FFRDC_Auth.pdf," and click on "Add Optional Other Attachment" to attach.

  Authorization for DOE FFRDCs. The cognizant Contracting Officer for the FFRDC must authorize in writing the use of a DOE FFRDC contractor on the proposed project and this authorization must be submitted with the application. The following wording is acceptable for this authorization.

  > "Authorization is granted for the _____ Laboratory to participate in the proposed project. The work proposed for the laboratory is consistent with or complementary to the missions of the laboratory, will not adversely impact execution of the DOE assigned programs at the laboratory, and will not place the laboratory in direct competition with the domestic private sector."

  Value/Funding. The value of, and funding for, the FFRDC contractor portion of the work will not normally be included in the award to a successful applicant. Usually, DOE will fund a DOE FFRDC contractor through the DOE field work proposal system and other FFRDC contractors through an interagency agreement with the sponsoring agency.

FFRDC Contractor Effort: The FFRDC contractor effort, in aggregate, shall not exceed 25% of the total estimated cost of the project, including the applicant's and the FFRDC contractor's portions of the effort.

Responsibility. The applicant, if successful, will be the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues, including but not limited to, disputes and claims arising out of any agreement between the applicant and the FFRDC contractor.

## PART IV – APPLICATION AND SUBMISSION INFORMATION

### A. ADDRESS TO REQUEST APPLICATION PACKAGE.

Application forms and instructions are available at Grants.gov. To access these materials, go to http://www.grants.gov, select "Apply for Grants," and then select "Download Application Package." Enter the CFDA and/or the funding opportunity number located on the cover of this announcement and then follow the prompts to download the application package. NOTE: You will not be able to download the Application Package unless you have installed PureEdge Viewer (See: http://www.grants.gov/DownloadViewer).

### B. CONTENT AND FORM OF APPLICATION – SF 424

**Applicants may submit applications under one or more Topic Areas with the following restrictions:**
**1) An applicant may not submit an application that covers more than one technical Topic Area. Separate applications must be submitted for separate technical Topic Areas; and**
**2) In each Topic Area, an eligible entity may only participate in one (1) application, either as the primary applicant or as a team partner.**

You must complete the mandatory forms and any applicable optional forms (e.g., SF-LLL-Disclosure of Lobbying Activities) in accordance with the instructions on the forms and the additional instructions below. **Files that are attached to the forms must be in Adobe Portable Document Format (PDF) unless otherwise specified in this announcement**. All application requirements in this section (Part IV.B) must be completed, regardless of Topic Area. Specific requirements for each Topic Area are included in Part V, which includes additional requirements for the Project Narrative File of the application.

1. **SF 424 - Application for Federal Assistance.**
   Complete all required fields in accordance with the pop-up instructions on the form. To activate the instructions, turn on the "Help Mode" (Icon with the pointer and question mark at the top of the form). The list of certifications and assurances referenced in Field 21 can be found on the Applicant and Recipient Page at http://grants.pr.doe.gov, under Certifications and Assurances.

2. **Other Attachments Form**
   Submit the following files with your application and attach them to the Other Attachments Form. Click on "Add Mandatory Other Attachment" to attach the Project Narrative. Click on "Add Optional Other Attachment," to attach the other files.

- **Project Narrative File - Mandatory Other Attachment**
  The project narrative must not exceed 30 pages, including cover page, table of contents, charts, graphs, maps, photographs, and other pictorial presentations, when printed using standard 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right). EVALUATORS WILL REVIEW ONLY THE NUMBER OF PAGES SPECIFIED IN THE PRECEDING SENTENCE. The font must not be smaller than 11 point. Do not include any Internet addresses (URLs) that provide information necessary to review the application. See Part IX.D for instructions on how to mark proprietary application information. Save the information in a single file named "Project.pdf," and click on "Add Mandatory Other Attachment" to attach.

  The Project Narrative must include:

- Cover Page.
  The Narrative cover page must indicate the name and type of organization, the announcement number, the project title, and both the technical and business points of contact for the applicant, denoting the names, titles, addresses, telephone and facsimile numbers, and electronic mail addresses. The cover page should also identify the name and type of organization for key participants, along with names, titles, addresses, telephone and facsimile, and electronic mail addresses of participant contacts. The specific Topic Area addressed by the application (Topic Area 1, Topic Area 2 or Topic Area 3 as described in this FOA) must also be clearly stated on the cover page. Along with indicating the type of organization, self-certification as a domestic, U.S.-owned entity is required to meet an eligibility requirement (refer to Part III.A). All entities should self-certify that they are U.S.-owned entities and indicate the state and date of organization on the cover page.

- Project Objectives.
  This section should provide a clear, concise statement of the specific objectives/aims of the proposed project.

- **Refer to Part V. for additional Project Narrative requirements.**

- Project Timetable:
  This section should outline as a function of time, year by year, all the important activities or phases of the project, including any activities planned beyond the project period. Successful applicants must use this project timetable to report progress.

- **Project Summary/Abstract File**
  The project summary/abstract must contain a summary of the proposed activity suitable for dissemination to the public. It should be a self-contained document that identifies the name of the applicant, the project director/principal investigator(s), the project title, the objectives of the project, a description of the project, including methods to be employed, the potential impact of the project (i.e., benefits, outcomes), and major participants (for collaborative projects). The Topic Area, which is the subject of the proposed project, must also be clearly stated. This document must not include any proprietary or sensitive business information as the Department may make it available to the public. The project summary must not exceed 1 page when printed using standard 8.5" by 11" paper with 1" margins (top, bottom, left and right) with font not smaller than 11 point. Save this information in a file named "Summary.pdf," and click on "Add Optional Other Attachment" to attach.

- **Resume File**
  Provide a resume for each key person proposed, including subrecipients and consultants if they meet the definition of key person. A key person is any individual who contributes in a substantive, measurable way to the execution of the project. Save all resumes in a single file named "Resume.pdf" and click on "Add Optional Other Attachment" to attach. Each resume must not exceed 2 pages when printed on 8.5" by 11" paper with 1 inch margins (top, bottom, left, and right) with font not smaller than 11 point and should include the following information, if applicable:

  *Education and Training*. Undergraduate, graduate and postdoctoral training- provide institution, major/area, degree and year.

*Professional Experience*: Beginning with the current position list, in chronological order, professional/academic positions with a brief description.

*Publications*. Provide a list of up to10 publications most closely related to the proposed project. For each publication, identify the names of all authors (in the same sequence in which they appear in the publication), the article title, book or journal title, volume number, page numbers, year of publication, and website address if available electronically.

Patents, copyrights and software systems developed may be provided in addition to or substituted for publications.

*Synergistic Activities*. List no more than 5 professional and scholarly activities related to the effort proposed. Include experience interacting with states, utilities and cities, relevant to solar and/or codes and standards issues.

- **SF 424 A Excel, Budget Information – Non-Construction Programs File**
  You must provide a separate budget for each year of support requested and a cumulative budget for the total project period. Use the SF 424 A Excel, "Budget Information – Non Construction Programs" form on the Applicant and Recipient Page at http://grants.pr.doe.gov. It is recommended to list budget by year in rows in Section A and budget by year in columns in Section B of the SF 424 form. You may request funds under any of the Object Class Categories as long as the item and amount are necessary to perform the proposed work, meet all the criteria for allowability under the applicable Federal cost principles, and are not prohibited by the funding restrictions in this announcement (See Part IV, F). Save the information in a single file named "SF424A.xls," and click on "Add Optional Other Attachment" to attach.

- **Budget Justification File**
  You must justify the costs proposed in each Object Class Category/Cost Classification category (e.g., identify key persons and personnel categories and the estimated costs for each person or category; provide a list of equipment and cost of each item; identify proposed subrecipient/consultant work and cost of each subrecipient/consultant; describe purpose of proposed travel, number of travelers and number of travel days; list general categories of supplies and amount for each category; and provide any other information you wish to support your budget). Provide the name of your cognizant/oversight agency, if you have one, and the name and phone number of the individual responsible for negotiating your indirect rates. If cost sharing is required, you must have a letter from each third party contributing cost sharing (i.e., a party other than the organization submitting the application) states that the third party is committed to providing a specific minimum dollar amount of cost sharing. In the budget justification, identify the following information for each third party contributing cost sharing: (1) the name of the organization; (2) the proposed dollar amount to be provided; (3) the amount as a percentage of the total project cost; and (4) the proposed cost sharing – cash, services, or property. By submitting your application, you are providing assurance that you have signed letters of commitment. Successful applicants will be required to submit these signed letters of commitments. Save the budget justification information in a single file named "Budget.pdf," and click on "Add Optional Other Attachment" to attach.

- **Subrecipient Budget File(s)**
  You must provide a separate budget (i.e., budget for each budget year and a cumulative

budget) for each subrecipient that is expected to perform work estimated to be more than $100,000 or 50 percent of the total work effort (which ever is less). Use the SF 424 A Excel for Non Construction Programs or the SF 424 C Excel for Construction Programs. These forms are found on the Applicant and Recipient Page at http://grants.pr.doe.gov. Save each Subrecipient budget in a separate file. Use up to 10 letters of the subrecipient's name (plus .xls) as the file name (e.g., ucla.xls or energyres.xls), and click on "Add Optional Other Attachment" to attach.

- **Budget for DOE Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable**
  If a DOE FFRDC contractor is to perform a portion of the work, you must provide a DOE Field Work Proposal in accordance with the requirements in DOE Order 412.1 Work Authorization System. This order and the DOE Field Work Proposal form are available at http://grants.pr.doe.gov. Use up to 10 letters of the FFRDC name (plus .pdf) as the file name (e.g., lanl.pdf or anl.pdf), and click on "Add Optional Other Attachment" to attach.

- **Commitment Letters from Team Partners, if applicable**
  If a third party (i.e. a party other than the organization submitting the application) will participate in the proposed project, the applicant must include a letter signed by an authorized official of each third party stating that it is committed to partaking in the project activities throughout the project duration and fulfilling the project objectives. Provide this information in a single file named "Letters.pdf" and click on "Add Optional Other Attachment" to attach.

- **Reference Checks on Federal Awards**
  Provide the information below for federal awards (contracts, grants, or cooperative agreements) that were received by either your organization or principal investigator in the last five (5) years. Preferably, list awards for technologies relevant to this announcement, and list at least five (5) and no more than eight (8) federal awards. Save the Reference Checks in a single file named "RefChecks.pdf," and click on "Add Optional Other Attachment" to attach.

  The following information is required for each federal award: 1) AWARD TITLE; 2) INSTRUMENT NUMBER; 3) TOTAL AWARD VALUE ($); 4) PERIOD OF PERFORMANCE (Dates); 5) APPLICANT'S PROJECT DIRECTOR (Name, Address, Telephone Number [including area code]); 6) FEDERAL AGENCY MAKING AWARD (Agency Name, Federal Program Manager, Federal Program Manager's Address, Federal Program Manager's Telephone Number [including area code]); and 7) A BRIEF DISPOSITION OF ACTIVITIES UNDER THE AWARD.

  This information will not provide any positive weighting factor in the Merit Review, but may be considered while applying Program Policy Factors in making final selections – with the sole purpose of evaluating viability of applicants with poor past performance.

- **SF-LLL Disclosure of Lobbying Activities** If applicable, complete SF- LLL.
  Applicability: If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the grant/cooperative agreement, you must complete and submit Standard Form - LLL, "Disclosure Form to Report Lobbying." The applicant should complete the PureEdge form for the SF-LLL. This

requirement is applicable to subrecipient(s) of financial assistance as well as recipients. Provide the subrecipients' information in a single file named "SFLLL_subs.pdf" and click on "Add Optional Other Attachment" to attach.

**Summary of Required Forms/Files**
Your application must include the following documents:

| Name of Document | Format | File Name |
|---|---|---|
| SF 424 - Application for Federal Assistance | PureEdge Form | N/A |
| Other Attachments Form: Attach the following files to this form: | PureEdge Form | N/A |
| Project Narrative File | PDF | Project.pdf |
| Project Summary/Abstract File | PDF | Summary.pdf |
| Resume File | PDF | Resume.pdf |
| SF 424A Excel - Budget Information for Non-Construction Programs File | Excel | SF424A.xls |
| Budget Justification File | PDF | Budget.pdf |
| Subrecipient Budget File(s), if applicable | Excel | See Instructions |
| Budget for DOE Federally Funded Research and Development Center (FFRDC) Contractor File, if applicable | PDF | See instructions |
| Authorization from cognizant Contracting Officer for FFRDC, if applicable (Refer to Part III.C) | PDF | FFRDC_Auth.pdf |
| Commitment Letters from Team Partners, if applicable | PDF | Letters.pdf |
| Reference Checks | PDF | RefChecks.pdf |
| SF-LLL Disclosure of Lobbying Activities, if applicable, for primary recipients | PureEdge Form | N/A |
| SF-LLL Disclosure of Lobbying Activities, if applicable, for subrecipient(s) | PDF | SFLLL_subs.pdf |

## C. SUBMISSIONS FROM SUCCESSFUL APPLICANTS.

If selected for award, DOE reserves the right to request additional or clarifying information for any reason deemed necessary, including, but not limited to:

- Indirect cost information
- Other budget information
- Name and phone number of the Designated Responsible Employee for complying with national policies prohibiting discrimination (See 10 CFR 1040.5)
- Representation of Limited Rights Data and Restricted Software, if applicable
- Environmental Checklist (EF1), in accordance with National Environmental Policy Act

- Project Management Plan should include project objectives, task structure, milestones tied to goals, schedules and performance measures for evaluating progress with regard to key tasks/ and/or deliverables, responsible organization performing the work and budget to complete each task (where the budget should be organized according to budget periods/no-go decision points). There should also be a discussion of approaches to resolve challenges and barriers.

## D. SUBMISSION DATES AND TIMES.

**Application Due Date**. Applications must be received by December 12, 2006, 11:59 PM Eastern Time. You are encouraged to transmit your application well before the deadline. APPLICATIONS RECEIVED AFTER THE DEADLINE WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD. Note: The Grants.gov Customer Support Desk closes at 9:00 PM Eastern Time.

## E. GOVERNMENTAL REVIEW.

This program is not subject to Executive Order 12372 – Intergovernmental Review of Federal Programs.

## F. FUNDING RESTRICTIONS.

Cost Principles**.** Costs must be allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. The cost principles for commercial organization are in FAR Part 31.

Pre-award Costs**.** Recipients may charge to an award resulting from this announcement pre-award costs that were incurred within the ninety (90) calendar day period immediately preceding the effective date of the award, if the costs are allowable in accordance with the applicable Federal cost principles referenced in 10 CFR part 600. Recipients must obtain the prior approval of the Contracting Officer for any pre-award costs that are for periods greater than this 90 day calendar period.

Pre-award costs are incurred at the applicant's risk. DOE is under no obligation to reimburse such costs if for any reason the applicant does not receive an award or if the award is made for a lesser amount than the applicant expected.

## G. OTHER SUBMISSION AND REGISTRATION REQUIREMENTS.

### 1. Where to Submit.

**APPLICATIONS MUST BE SUBMITTED THROUGH GRANTS.GOV TO BE CONSIDERED FOR AWARD.** Submit electronic applications through the "Apply for Grants" function at www.Grants.gov. If you have problems completing the registration process or submitting your application, call Grants.gov at 1-800-518-4726 or send an email to support@grants.gov.

### 2. Registration Process.

You must COMPLETE the one-time registration process (all steps) before you can submit your first application through Grants.gov (See www.grants.gov/GetStarted). **We**

**recommend that you start this process at least three weeks before the application due date**. It may take 21 days or more to complete the entire process. Use the Grants.gov Organizational Registration Checklists at http://www.grants.gov/assets/OrganizationRegCheck.doc to guide you through the process. IMPORTANT: During the CCR registration process, you will be asked to designate an E-Business Point of Contact (EBIZ POC). The EBIZ POC must obtain a special password called "Marketing Partner Identification Number" (MPIN). When you have completed the process, you should call the Grants.gov Helpdesk at 1-800-518-4726 to verify that you have completed the final step (i.e. Grants.gov registration).

**3**. **Application Receipt Notices.**

After an application is submitted, the Authorized Organization Representative (AOR) will receive a series of five e-mails. It is extremely important that the AOR watch for and save each of the emails. It may take up to 2 business days from application submission to receipt of email Number 2. You will know that your application has reached DOE when the AOR receives email Number 5. You will need the Submission Receipt Number (email Number 1) to track a submission. The titles of the five e-mails are:

Number 1 – Grants.gov Submission Receipt Number
Number 2 – Grants.gov Submission Validation Receipt for Application Number
Number 3 – Grants.gov Grantor Agency Retrieval Receipt for Application Number
Number 4 – Grants.gov Agency Tracking Number Assignment for Application Number
Number 5 – DOE e-Center Grant Application Received

The last email will contain instructions for the AOR to register with the DOE e-Center. If the AOR is already registered with the DOE e-Center, the title of the last email changes to: Number 5 – DOE e-Center Grant Application Received and Matched. This email will contain the direct link to the application in IIPS. The AOR will need to enter their DOE e-Center user id and password to access the application.

## Part V – PROJECT NARRATIVE ADDITIONAL REQUIREMENTS

This section of the FOA delineates the information that must be included in the Project Narrative File of the application. This is in addition to the Project Narrative requirements detailed under Part IV.B.2. The Project Narrative requirements are divided into the three Topic Areas summarized in Part I. The application must make clear which Topic Area is the subject of the proposed work and how the project will address the objectives indicated in this FOA.

The application content is to be presented in the major sections that align with the Merit Review Criteria (Part VI.A.2). Provide sufficient information so that reviewers will be able to evaluate the application in accordance with these merit review criteria.

## TOPIC AREA 1 - SOLAR CODES AND STANDARDS WORKING GROUP LEADERSHIP

### a) Project Description and Implementation Plan

Applicant must provide a plan for how it intends to establish and effectively lead the Solar Codes and Standards Working Group (SCSWG):

- Describe the approach for organizing and leading an efficient and effective SCSWG with collaboration and consensus among members.
- Describe how the codes and standards study areas and results in subsection (c) below will be integrated into the SCSWG agenda.

Additionally, the project plan should describe how applicant will conduct or supervise the completion of the following activities which will be the responsibility of the SCSWG:

- Conduct codes and standards “gap analysis” and use this analysis to shape the agenda and prioritization of SCSWG meetings.
- Hold quarterly meetings on salient solar codes and standards issues.
- Inform stakeholders of progress on specific SAI objectives.
- Develop, host, maintain, and update a website to collect and provide codes and standards data to all interested stakeholders.
    - Provide links to “best practice” codes and standards as determined by SCSWG, including interconnection standards, net metering, and local code ordinances (including solar access rights ordinances, PV fee permit structures, and property valuation metrics for solar installations to be used in tax assessments).
    - Identify and communicate emerging installation and product issues that will have a bearing on SAI success.
    - Provide a method of information exchange between DOE stakeholders and SCSWG on the site (such as a query form for stakeholders to be responded to by SCSWG, with responses posted).
    - Include and keep updated to other codes and standards web resources.
    - Provide guidance to DOE on how to enhance and consolidate existing Federal and other online resources.
    - Capture feedback from stakeholders on usefulness of SCSWG-provided information and make modifications as needed to enhance website versatility and value.

- Provide guidance in recommending changes and enhancements, if any, to the National Electrical Code (e.g., Article 690) to ensure that the following installation practices for PV systems are included:
    - Alternatives to traditional disconnecting means, i.e. AC disconnects, that offer potential cost savings and present no adverse health or safety risks
    - Proper wiring methods
    - Wiring methods for harsh conditions, including coastal systems for corrosion of metals
    - Review of required connection methods
    - Inclusion of “transformerless”/non-isolated inverters
    - Building Integrated Photovoltaic (BIPV) issues
    - Connections to other sources
- Revise, correct, and promote an accurate IEEE 1547 as the solar industry and solar applications evolve as a distributed generation source.
- Where “best practice” codes do not exist, create model local codes that can be made available to jurisdictions across the U.S.
    - Support flexible model code provisions so that local amendments can be accommodated.
    - Offer long-term technical assistance during model code adoption.
    - Include model ordinances that allow for solar access rights.
- Assist State and local governments in adopting best practices along with the assistance from DOE and DOE designated entities.
- Monitor international codes and standards development activities and provide guidance to DOE from a U.S. perspective.
- Collaborate with international agencies and entities with codes and standards oversight, such as the IEC, to encourage uniformity (or at least compatibility) of domestic and international standards and codes.
- Centralize participation with international standards bodies with respect to ensuring proper coverage, clarity of desired outcomes, adequate resources to accomplish, and accountability for results.

**b) Roles, Responsibilities and Capabilities**

Applicant is expected to describe its relevant experiences and successes in:

- Assembling and leading a national working group (or similar entity) that is representative of a diversity of interests to address and reach consensus on technical and regulatory issues
- Relevant leadership experience with codes and standards issues and/or the solar energy sector with demonstrated results
- Working on codes and standards and/or solar-related issues

Applicant is also expected to:

- Describe the organizational structure with the explicit role of each team member defined, if applicable, and the teaming arrangement that will lead to achieving the project objectives.
- Describe the capabilities, experience and qualifications of Key Personnel, including key team members

**c) Study Areas on Key Codes and Standards Issues**

Even with model interconnection standards in place, new technologies and varied applications will create the need for further studies to ensure safety, reliability and performance. These study areas need to be fully defined and coordinated with the SCSWG

before work on the studies commences. The project plan should describe how applicant proposes to conduct or supervise the completion of the following study areas which are expected to be one-year in duration. These study areas should be defined and addressed in the application:

Interconnection Standards

- Usefulness of interconnection "screens" for quick approval of installations by local authorities, including Building Integrated Photovoltaic (BIPV) screens
    - For BIPV, evaluate the possibility of a parametric certification program to certify BIPV products in certain construction settings.
        - Evaluate the cost/benefits of having a system be certified only once and thereafter be deemed "certified" in certain settings.
        - Address issues of quality assurance through continued testing.
        - Investigate the possibility of having process controls and critical construction materials documented during certification and then verified as still being used by BIPV manufacturer.
- Usefulness of external AC disconnect switch
    - Evaluate the continued usefulness (or not) of a required external AC disconnect switch on solar systems.
    - Evaluate and substantiate the potential benefits and drawbacks of inverters with plug-in connections on AC and DC sides (European inverters), which eliminates disconnect switches on both input and output and therefore reduces equipment cost and decreases installation time.

Net Metering

- Economics of net metering
    - Collect data related to current and future economics of net metering.
    - Evaluate net metering in competitive economic markets.
    - Assess whether current methods of allocating distribution costs for rate making purposes benefit or discriminate against Distributed Generation and PV.
- Address the effect of net metering on grid stability across various levels of solar technology market penetration (in terms of percentage of total electricity production).
- Assess the interaction between demand charges, demand "ratchets" and net metering benefits.

Local Codes

- Current state of permitting
    - Investigate the advantages and disadvantages of standardizing or capping permitting fees.
    - Model permit fee structure.
    - Address the advantages of offering free permits for solar.
    - Calculation of the true costs of solar permitting.
    - Provide methods of spreading the optimal fee structure arrangement across states and localities (work with DOE and DOE-designated entities).
- Model building codes regarding PV
    - Address the possibilities and impacts of model building codes as local ordinances throughout the U.S.
    - Provide possible flexible model code provisions so that local amendments can be accommodated.

- Include model ordinances banning covenants/restrictions in deeds/contracts that restrict installation of solar system.
- Use a third party to evaluate the codes and approve them.

Product Standards

- PV cell performance standards
  - Although the PV cell has become a market commodity, there are no existing standards that can be used to pre-qualify this device to assist the manufacturer in identifying suitable alternative sources. Examine whether a standard that establishes basic electrical performance and form factor could aid the manufacturer in establishing their supply chain as well as assist the end-product certifier in establishing the scope of product certification. Include advantages and disadvantages of such a standard.

- Concentrating PV product safety standards
  - Concentrating PV product safety standards will soon be required to evaluate products that are close to commercialization. Draft a new standard for such devices that includes a demarcation of hazards categorized by sunlight concentration ratios (for instance the requirements for 10X systems may be less strenuous, or include fewer tests than the requirements for 100X systems).

### d) Communications and Outreach

Applicant is expected to describe its communications skills to include the following:

- Describe the proposed approach and past experience in communicating technical information in an efficient and effective manner to the SCSWG members and DOE stakeholders.
- Comment on particular skills or experiences, ability, and approach to disseminate technical information to broader, less technical audiences.
- Describe skills or experience, ability and approach to produce communications tools, such as brochures, for dissemination to DOE stakeholders, that capture the results, data, and tools developed by the SCSWG.

## TOPIC AREA 2 - EXPERIENCE-BASED UTILITY PV CAPACITY CREDITS

### a) Project Description and Implementation Plan

Applicant shall provide a detailed project plan showing how it intends to develop an analytically-defensible and utility-acceptable capacity credit value methodology. The resulting methodology from the project is intended to be used for initial field or pilot use by one or more utilities in order to lay the foundation for the application of PV contribution calculations to integrated resource planning and other grid-interactive issues. Plan should include an anticipated scope of work to be done in cooperation with laboratories, utility and industry partners, and any subcontractors.

- Develop the project plan sufficiently to demonstrate a full understanding of the capacity credit value issue.
- Provide a sufficient level of detail so that the proposed method for conducting the study is clear. The algorithms, calculations and methodologies to be developed should be included in this description.

- Examine the costs and benefits of utility charges, tariffs, credits or other utility demand policies to distributed energy providers and utilities.
- Clearly describe the planned cooperation with laboratories, utilities, industry partners and subcontractors.

**b) Roles, Responsibilities and Capabilities**

Applicant is expected to describe its relevant experiences and successes in:

- Developing relationships with utilities and utility organizations and working with them on technical issues
- Conducting successful, relevant methodologies and cost and benefit analyses in the past with demonstrated results

Applicant is also expected to:

- Describe the organizational structure with the explicit role of each team member defined, if applicable, and the teaming arrangement that will lead to achieving the project objectives.
- Describe the capabilities, experience and qualifications of Key Personnel, including key team members.

## TOPIC AREA 3 - NATIONAL VOLUNTARY PV MODULE PERFORMANCE RATING SYSTEM

**a) Project Description and Implementation Plan**

Applicant must provide a project plan for how it intends to develop a national voluntary PV module performance rating system. This project would follow IEEE processes for making official submissions to IEEE, including the formation of a study group and submittal of a Project Authorization Request (PAR) through final balloting and adoption of the proposed standards. The PAR is the official document that authorizes work on standards projects in the IEEE. The Recipient(s) must also work in close collaboration with the IEC to ensure that the standards developed are consistent with foreign market requirements.

The utilization of the IEEE consensus-based process is the recommended approach because of the inclusiveness of the expected participants, and the familiarity of the PV industry, utilities, regulators, consumer groups, and other stakeholders with the process and its procedural safeguards. The targeted application of resources from within the process can have a significant impact on the ultimate success of the project. Further, the transparency and openness of the process eliminates or drastically reduces subsequent challenges to the use and adoption of a successfully developed standard.

For consistency with international safety and performance schemes, this process has to anticipate national differences in safety and performance, but strive to minimize those differences or include additional testing, as needed, to offer the greatest access to the global marketplace. The Worldwide Systems for Conformity Testing and Certification of Electrical Equipment (IECEE)[4] is conducting such an effort. Again, close collaboration with the IEC is required.

[4] The IECEE operates under the conformity assessment branch of the IEC and the category of PV product, established in late 2003, currently has membership by seven countries including PV leaders Japan and Germany.

Applicant should propose the development of a performance rating system that is a more accurate predictor of real world module performance than current Standard Test Conditions (STC) rating systems. Applicant should also describe its proposed performance rating system in sufficient detail so that reviewers of the application are able to determine the processes and protocols that will be used in place of a typical STC rating. Applicant is not expected to have developed the rating system itself; that is the purpose of this funding opportunity Topic Area.

The Recipient(s) will also be required to ensure that test procedures developed under this Topic Area include sufficient objective and measurable performance metrics in case the Department chooses to pursue an Energy Star rating for PV modules in the future.

As part of the effort under this Topic Area, Recipient(s) must also work to determine whether the purposes of a voluntary module performance rating system could be achieved without conducting a full-blown IEEE/IEC standard formation process by simply working to lower the tolerances within the current industry safety rating standards for modules. If Recipient(s) is able to work to lower those tolerances to a level that achieves the same purposes as the voluntary performance standards, Recipient(s) will be expected to follow that less-costly pathway to achieving program goals.

Specifically, applicant should describe in its project plan how applicant will approach and achieve the following activities which would be the responsibility of this team:

- Consider the value/feasibility of working through the revision of the current safety standard that currently allows +/-10% power output variation from nameplate ratings to a tighter +/-5% (or whatever level is consistent with international standards) as a potential easier route to achieving the same public aims without having to engage the full IEEE process.
- Work collaboratively with the IEC in the development of 61853 (PV Module Performance Testing and Rating System), which needs to be completed, and then adopted by the U.S. through a third-party testing and certification organization.
- Support the current IECEE efforts in module performance.
- Present a plan to achieve a national voluntary PV module performance rating system.
- Present a plan that aligns with the IEEE consensus-based standards formation and/or approval processes.
- Describe the strategy for working through the IEEE process while collaborating with the IEC.
- Describe how the proposed performance rating system approach is superior to the current STC rating system, and how it will result in more accurate predictions of real world module performance.
- Describe how rating system activities, on a national level, will be implemented and supervised with the incorporation of views from state, national and international entities.
- Describe any plans for collaboration and consensus-building among rating system development participants to achieve desired outcomes.

**b) Roles, Responsibilities and Capabilities**

Applicant is expected to describe its relevant experiences and successes in:

- Prior IEEE official submission processes
- Leading or playing an important role in developing PV standards or rating systems procedures; establishing standards or rating systems with wide application and acceptance
- Assembling and leading a national working group (or similar entity) that is representative of a diversity of interests to address and reach consensus on technical and regulatory issues
- Relevant international experience, including work done in conjunction with the IEC or other international energy entities

Applicant is also expected to:

- Describe the organizational structure with the explicit role of each team member defined, if applicable, and the teaming arrangement that will lead to achieving the project objectives.
- Describe the capabilities, experience and qualifications of Key Personnel, including key team members.

## Part VI - APPLICATION REVIEW INFORMATION

### A. CRITERIA

**1. Initial Review Criteria**.
Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for an award; (2) the information required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project is responsive to the objectives of the funding opportunity announcement. If an application fails to meet these requirements, it may be deemed non-responsive and eliminated from further review.

**2. Merit Review Criteria.**
The evaluation criteria that will be used in the comprehensive evaluation of applications are listed by Topic Area below.

**TOPIC AREA 1 - SOLAR CODES AND STANDARDS WORKING GROUP LEADERSHIP**

| | | |
|---|---|---|
| a | Project Description and Implementation Plan | 30% |
| b | Roles, Responsibilities and Capabilities | 30% |
| c | Study Areas on Key Codes and Standards Issues | 25% |
| d | Communications and Outreach | 15% |

The following evaluation criteria will be used in the comprehensive evaluation of applications under Topic Area 1. All bullets under each criterion will be considered with equal importance.

***Criterion a. Project Description and Implementation Plan (Weight - 30%)***

- Adequacy, reasonableness and soundness of the project plan to reach the desired result of leading an effective SCSWG that promotes collaboration and consensus among members
- Merits of approach to integrating the study areas plan progress and results into the SCSWG agenda
- Clarity and responsiveness of the application in addressing each of the bullets listed under the responsibilities of leading the Solar Codes and Standards Working Group (SCSWG) (see Part V. Topic Area 1(a) of this FOA)

***Criterion b. Roles, Responsibilities and Capabilities (Weight – 30%)***

- Specific evidence that the applicant has demonstrated success in assembling and leading a national working group (or similar entity) that is representative of a diversity of interests to address and reach consensus on technical and regulatory issues
- Specific evidence that the applicant has demonstrated successful, relevant leadership with codes and standards issues and/or the solar energy sector in the past with demonstrated results
- Depth of understanding of codes and standards and/or solar-related issues, and relevant experience in addressing those challenges

- Soundness of the organizational structure with the explicit roles of each team member defined and the strength of the teaming arrangements
- Adequacy of the capabilities, experience and qualifications of key personnel, including key team members
- Adequacy of the level of participation by project participants as evidenced by letter(s) of commitment (refer to Part IV.B.2 “Commitment Letters from Team Partners,” if applicable)

***Criterion c. Study Areas on Key Codes and Standards Issues (Weight – 25%)***

- Clarity and responsiveness of the application in addressing each of the bullets listed under the application requirements for Study Areas on Key Codes and Standards Issues (see Part V. Topic Area 1 (c) of this FOA)
- Demonstrated understanding of the details and issues surrounding interconnection standards, net metering, local codes and product standards
- Clarity, adequacy and reasonableness of the proposed course of study to address interconnection standards, net metering, local codes and product standards within an expected study duration of one year

***Criterion d. Communications and Outreach (Weight – 15%)***

- Thoroughness of applicant’s plan and relevant experience in communicating technical information in an efficient and effective manner to SCSWG members and other stakeholders
- Adequate approach and ability to translate technical information into common, generic terms, for dissemination to a non-technical audience
- Adequacy of applicant’s ability and approach to produce communication tools, such as brochures, for dissemination to DOE stakeholders, that capture the results, data and tools developed by the SCSWG

## TOPIC AREA 2 - EXPERIENCE-BASED UTILITY PV CAPACITY CREDITS

| | | |
|---|---|---|
| a | Project Description and Implementation Plan | 60% |
| b | Roles, Responsibilities and Capabilities | 40% |

The following evaluation criteria will be used in the comprehensive evaluation of applications under Topic Area 2. All bullets under each criterion will be considered with equal importance.

***Criterion a. Project Description and Implementation Plan (Weight - 60%)***

- Demonstrates a clear understanding of the details of the capacity credit value issue
- Adequately describes the method and means for conducting the study, including algorithms and calculations; reasonableness and soundness of the proposal to address the capacity credit value issue.
- Specific evidence that the applicant has an understanding and familiarity with the

costs and benefits of utility charges, tariffs, credits and other utility demand policies to distributed energy providers and utilities

- Specific evidence and appropriateness of anticipated cooperation with laboratories, utilities, industry partners and subcontractors

***Criterion b. Roles, Responsibilities and Capabilities (Weight – 40%)***

- Specific evidence that the applicant has previous experience in developing relationships with utilities and utility organizations to help understand the relevant utility perspectives and concerns
- Specific evidence that the applicant has demonstrated successful, relevant methodologies and cost and benefit analyses in the past with demonstrated results
- Soundness of the organizational structure with the explicit roles of each team member defined and the strength of the teaming arrangements
- Adequacy of the capabilities, experience and qualifications of key personnel, including key team members
- Adequacy of the level of participation by project participants as evidenced by letter(s) of commitment (refer to Part IV.B.2 “Commitment Letters from Team Partners,” if applicable)

**TOPIC AREA 3 - NATIONAL VOLUNTARY PV MODULE PERFORMANCE RATING SYSTEM**

| | | |
|---|---|---|
| a | Project Description and Implementation Plan | 55% |
| b | Roles, Responsibilities and Capabilities | 45% |

The following evaluation criteria will be used in the comprehensive evaluation of applications under Topic Area 3. All bullets under each criterion will be considered with equal importance.

***Criterion a. Project Description and Implementation Plan (Weight - 55%)***

- Clarity and responsiveness of working through the revision of current industry safety standard as a potential easier route to achieving the same public aims without having to engage the full IEEE process
- Demonstrated understanding of the role of the IEC and adequacy of the plans to work with the IEC collaboratively in the development of standard 61853
- Identification of a viable plan to support the IECEE module performance efforts
- Clarity and responsiveness of the plan in presenting a viable course to achieve a national voluntary PV module performance rating system
- Alignment of plan with the IEEE consensus-based standards formation and/or approval processes
- Adequate description of the strategy for working through the IEEE process while collaborating with the IEC
- Clarity and responsiveness of the plan in describing a proposed performance rating system approach, how it is superior to the current STC rating system, and how it will result in more accurate predictions of real world module performance

- Completeness and thoroughness of the plan in demonstrating applicant's ability to execute, supervise and incorporate views fairly during ongoing activities with state, national and international entities
- Identification of a viable plan for collaboration and consensus among rate system development participants to achieve desired outcomes

***Criterion b. Roles, Responsibilities and Capabilities (Weight – 45%)***

- Level of prior experience leading or participating in IEEE standard making processes
- Specific evidence that the applicant has played an important role in developing PV standards or rating systems procedures, and evidence that these developments had wide application and acceptance
- Specific evidence that the applicant has demonstrated success in assembling and leading a national working group (or similar entity) that is representative of a diversity of interests to address and reach consensus on technical and regulatory issues
- Depth of relevant international experience, including work done in conjunction with the IEC or other international energy entities
- Soundness of the organizational structure with the explicit roles of each team member defined and the strength of the teaming arrangements
- Adequacy of the capabilities, experience and qualifications of key personnel, including key team members.
- Adequacy of the level of participation by project participants as evidenced by letter(s) of commitment (refer to Part IV.B.2 "Commitment Letters from Team Partners," if applicable)

**3. Other Selection Factors.**

The selection official will consider the following program policy factors in the selection process:

- Selection of applicants to achieve a balance of complementary projects, to meet the overall Market Transformation goals and objectives of the Solar America Initiative
- Geographic diversity of applicants and/or project activities
- Voluntary cost share contribution
- Experience and record of performance of the applicants on prior federally-funded projects

## B. REVIEW AND SELECTION PROCESS.

**1. Merit Review.**

Applications that pass the initial review will be subjected to a merit review in accordance with the guidance provided in the "Department of Energy Merit Review Guide for Financial Assistance and Unsolicited Proposals." This guide is available under Financial Assistance, Regulations and Guidance at http://professionals.pr.doe.gov/ma5/ma-5web.nsf/?Open.

**2. Selection.**
The Selection Official will consider the merit review recommendation, program policy factors, and the amount of funds available in making selection decisions.

**3. Discussions and Award.**
The Government may enter into discussions with a selected applicant for any reason deemed necessary, including, but not limited to: (1) the budget is not appropriate or reasonable for the requirement; (2) only a portion of the application is selected for award; (3) the Government needs additional information to determine that the recipient is capable of complying with the requirements in 10 CFR part 600; and/or (4) special terms and conditions are required. Failure to resolve satisfactorily the issues identified by the Government will preclude award to the applicant.

**C. ANTICIPATED NOTICE OF SELECTION AND AWARD DATES.**
DOE anticipates notifying applicants selected for award by the end of February 2007 and plans to make awards by the end of April 2007.

## Part VII - AWARD ADMINISTRATION INFORMATION

### A. AWARD NOTICES.

**1. Notice of Selection.**
DOE will notify applicants selected for award. This notice of selection is not an authorization to begin performance. (See Part IV.F with respect to the allowability of pre-award costs.)

Organizations whose applications have not been selected will be advised as promptly as possible. For applicants who do not pass the initial review, this notice will consist of the findings of the initial review as determined by DOE. For applicants who go forward to the comprehensive review, this notice will consist of the consensus strengths and weaknesses as determined by the Merit Review Committee.

**2. Notice of Award.**
A Notice of Financial Assistance Award issued by the Contracting Officer is the authorizing award document. It normally includes, either as an attachment or by reference: 1. Special Terms and Conditions; 2. Applicable program regulations, if any; 3. Application as approved by DOE; 4. DOE assistance regulations at 10 CFR part 600, or, for Federal Demonstration Partnership (FDP) institutions, the FDP terms and conditions; 5. National Policy Assurances To Be Incorporated As Award Terms; 6. Budget Summary; and 7. Federal Assistance Reporting Checklist, which identifies the reporting requirements.

### B. ADMINISTRATIVE AND NATIONAL POLICY REQUIREMENTS.

**1. Administrative Requirements.**
The administrative requirements for DOE grants and cooperative agreements are contained in 10 CFR part 600 (See: http://ecfr.gpoaccess.gov), except for grants made to Federal Demonstration Partnership (FDP) institutions. The FDP terms and conditions and DOE FDP agency specific terms and conditions are located on the National Science Foundation web site at http://www.nsf.gov/awards/managing/fed_dem_part.jsp.

**2. Special Terms and Conditions and National Policy Requirements.**
The DOE Special Terms and Conditions for Use in Most Grants and Cooperative Agreements are located at http://grants.pr.doe.gov. The National Policy Assurances To Be Incorporated As Award Terms are located at http://grants.pr.doe.gov.

**Intellectual Property Provisions**.
The standard DOE financial assistance intellectual property provisions applicable to the various types of recipients are located at http://www.gc.doe.gov/techtrans/sipp_matrix.html.

**Statement of Substantial Involvement**.
The project(s) awarded under this FOA is associated with numerous separate solar program elements for implementation of the SAI. In order to implement each program element in a consistent and uniform manner, DOE must collaborate with each entity in the program, and also fosters collaboration and coordination between all entities. DOE also provides additional monitoring to permit specified kinds of direction or redirection of each entity's work due to interrelationships between projects and/or critical programmatic goals.

DOE will also be substantially involved through additional monitoring to permit specified kinds of direction or redirection of the work to achieve the goals of the DOE. With respect to Topic Area 1, DOE will have involvement in the selection of study area criteria. As part of its standard project management responsibilities, DOE will also conduct periodic reviews and ongoing evaluation of key performance parameters.

**C. REPORTING.**

Reporting requirements are identified on the Federal Assistance Reporting Checklist, DOE F 4600.2, attached to the award agreement. The proposed Checklist for this program can be found at:
https://www.eere-pmc.energy.gov/procurenet/FinancialAssistance/Forms/DOE_Forms/DOEF4600_2.doc
At a minimum, reporting requirements will include:

- Quarterly reports
- Annual reviews for multi-year projects will assess the progress made under the Topic Area. These reviews will take place coincident with the DOE Solar Program Annual Review.
- For Topic Area 1 only, it is anticipated that DOE reporting requirements will include reports, as required, on certain codes and standards activities to monitor progress and re-direct efforts on a timely basis.

## PART VIII - QUESTIONS

### A. QUESTIONS

Questions regarding the content of the announcement must be submitted through the "Submit Question" feature of the DOE Industry Interactive Procurement System (IIPS) at http://e-center.doe.gov. Locate the program announcement on IIPS and then click on the "Submit Question" button. Enter required information. You will receive an electronic notification that your question has been answered. DOE will try to respond to a question within 3 business days, unless a similar question and answer have already been posted on the website. All questions must be submitted no later than one week prior to the closing date.

Questions relating to the registration process, system requirements, how an application form works, or the submittal process must be directed to Grants.gov at 1-800-518-4726 or support@grants.gov. DOE cannot answer these questions.
Note: The Grants.gov Customer Support Desk closes at 9:00 PM Eastern Time.

## PART IX - OTHER INFORMATION

**A. MODIFICATIONS**.
Notices of any modifications to this announcement will be posted on Grants.gov and the DOE Industry Interactive Procurement System (IIPS). You can receive an email when a modification or an announcement message is posted by joining the mailing list for this announcement through the link in IIPS. When you download the application at Grants.gov, you can also register to receive notifications of changes through Grants.gov.

**B. GOVERNMENT RIGHT TO REJECT OR NEGOTIATE.**
DOE reserves the right, without qualification, to reject any or all applications received in response to this announcement and to select any application, in whole or in part, as a basis for negotiation and/or award.

**C. COMMITMENT OF PUBLIC FUNDS.**
The Contracting Officer is the only individual who can make awards or commit the Government to the expenditure of public funds. A commitment by other than the Contracting Officer, either explicit or implied, is invalid.

**D. PROPRIETARY APPLICATION INFORMATION**.
Patentable ideas, trade secrets, proprietary or confidentional commercial or financial information, disclosure of which may harm the applicant, should be included in an application only when such information is necessary to convey an understanding of the proposed project. The use and disclosure of such data may be restricted, provided the applicant includes the following legend on the first page of the project narrative and specifies the pages of the application which are to be restricted:

"The data contained in pages _____ of this application have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for evaluation purposes, provided that if this applicant receives an award as a result of or in connection with the submission of this application, DOE shall have the right to use or disclose the data herein to the extent provided in the award. This restriction does not limit the government's right to use or disclose data obtained without restriction from any source, including the applicant."

To protect such data, each line or paragraph on the pages containing such data must be specifically identified and marked with a legend similar to the following:

"The following contains proprietary information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

**E. EVALUATION AND ADMINISTRATION BY NON-FEDERAL PERSONNEL.**
In conducting the merit review evaluation, the Government may seek the advice of qualified non-Federal personnel as reviewers. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure agreements prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign a non-disclosure agreement.

**F. INTELLECTUAL PROPERTY DEVELOPED UNDER THIS PROGRAM.**
Patent Rights. The government will have certain statutory rights in an invention that is conceived or first actually reduced to practice under a DOE award. 42 U.S.C. 5908 provides

that title to such inventions vests in the United States, except where 35 U.S.C. 202 provides otherwise for nonprofit organizations or small business firms. However, the Secretary of Energy may waive all or any part of the rights of the United States subject to certain conditions. (See "Notice of Right to Request Patent Waiver" in paragraph G below.)

Rights in Technical Data. Normally, the government has unlimited rights in technical data created under a DOE agreement. Delivery or third party licensing of proprietary software or data developed solely at private expense will not normally be required except as specifically negotiated in a particular agreement to satisfy DOE's own needs or to insure the commercialization of technology developed under a DOE agreement.

**G. NOTICE OF RIGHT TO REQUEST PATENT WAIVER.**

Applicants may request a waiver of all or any part of the rights of the United States in inventions conceived or first actually reduced to practice in performance of an agreement as a result of this announcement, in advance of or within 30 days after the effective date of the award. Even if such advance waiver is not requested or the request is denied, the recipient will have a continuing right under the award to request a waiver of the rights of the United States in identified inventions, i.e., individual inventions conceived or first actually reduced to practice in performance of the award. Any patent waiver that may be granted is subject to certain terms and conditions in 10 CFR 784.

Domestic small businesses and domestic nonprofit organizations will receive the patent rights clause at 37 CFR 401.14, i.e., the implementation of the Bayh-Dole Act. This clause permits domestic small business and domestic nonprofit organizations to retain title to subject inventions. Therefore, small businesses and nonprofit organizations do not need to request a waiver.

**H. NOTICE REGARDING ELIGIBLE/INELIGIBLE ACTIVITIES.**

Eligible activities under this program include those which describe and promote the understanding of scientific and technical aspects of specific energy technologies, but not those which encourage or support political activities such as the collection and dissemination of information related to potential, planned or pending legislation.

**I. NOTICE OF RIGHT TO CONDUCT A REVIEW OF FINANCIAL CAPABILITY.**

DOE reserves the right to conduct an independent third party review of financial capability for applicants that are selected for negotiation of award (including personal credit information of principal(s) of a small business if there is insufficient information to determine financial capability of the organization).

## REFERENCE MATERIAL

### Appendix A – Definitions

**"Amendment"** means a revision to a Funding Opportunity Announcement.

"**Applicant**" means the legal entity or individual signing the Application. This entity or individual may be one organization or a single entity representing a group of organizations that has chosen to submit a single Application in response to a Funding Opportunity Announcement.

"**Application**" means the documentation submitted in response to a Funding Opportunity Announcement. NOTE: Application is referred to as Proposal in IIPS.

**"Authorized Organization Representative (AOR)"** is the person with assigned privileges who is authorized to submit grant applications through Grants.gov on behalf of an organization. The privileges are assigned by the organization's E-Business Point of Contact designated in the CCR.

"**Award**" means the written documentation executed by a DOE Contracting Officer, after an Applicant is selected, which contains the negotiated terms and conditions for providing Financial Assistance to the Applicant. A Financial Assistance Award may be either a Grant or a Cooperative Agreement.

"**Budget**" means the cost expenditure plan submitted in the Application, including both the DOE contribution and the Applicant Cost Share.

"**Contracting Officer**" means the DOE official authorized to execute Awards on behalf of DOE and who is responsible for the business management and non-program aspects of the Financial Assistance process.

"**Cooperative Agreement**" means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and Substantial Involvement (see definition below) is anticipated between DOE and the Applicant during the performance of the contemplated activity.

"**Cost Sharing**" means the respective share of Total Project Costs to be contributed by the Applicant and by DOE. The percentage of Applicant Cost Share is to be applied to the Total Project Cost (i.e., the sum of Applicant plus DOE Cost Shares) rather than to the DOE contribution alone.

**"Central Contractor Registry (CCR)"** is the primary database which collects, validates, stores and disseminates data in support of agency missions. Funding Opportunity Announcements which require application submission through Grants.gov require that the organization first be registered in the CCR at http://www.grants.gov/CCRRegister.

**"Credential Provider"** is an organization that validates the electronic identity of an individual through electronic credentials, PINS, and passwords for Grants.gov. Funding Opportunity Announcements which require application submission through Grants.gov require that the individual applying on behalf of an organization first be registered with the Credential Provider at https://apply.grants.gov/OrcRegister.

**“Data Universal Numbering System (DUNS) Number”** is a unique nine-character identification number issued by Dun and Bradstreet (D&B). Organizations must have a DUNS number prior to registering in the CCR. Call 1-866-705-5711 to receive one free of charge. http://www.grants.gov/RequestaDUNS

**“E-Business Point of Contact (POC)”** is the individual who is designated as the Electronic Business Point of Contact in the CCR registration. This person is the sole authority of the organization with the capability of designating or revoking an individual’s ability to submit grant applications on behalf of their organization through Grants.gov. http://www.grants.gov/applicants/e_biz.jsp

**“E-Find”** is a Grants.gov webpage where you can search for Federal Funding Opportunities in FedGrants. http://www.grants.gov/search/searchHome.do

"**Financial Assistance**" means the transfer of money or property to an Applicant or Participant to accomplish a public purpose of support authorized by Federal statute through Grants or Cooperative Agreements and sub-awards. For DOE, it does not include direct loans, loan guarantees, price guarantees, purchase agreements, Cooperative Research and Development Agreements (CRADAs), or any other type of financial incentive instrument.

**“Federally Funded Research and Development Center (FFRDC)”** means a research laboratory as defined by Federal Acquisition Regulation 35.017.

**“Funding Opportunity Announcement (FOA)”** is a publicly available document by which a Federal agency makes known its intentions to award discretionary grants or cooperative agreements, usually as a result of competition for funds. Funding opportunity announcements may be known as program announcements, notices of funding availability, solicitations, or other names depending on the agency and type of program.

**"Grant"** means a Financial Assistance instrument used by DOE to transfer money or property when the principal purpose of the transaction is to accomplish a public purpose of support or stimulation authorized by Federal statute, and no Substantial Involvement is anticipated between DOE and the Applicant during the performance of the contemplated activity.

**“Grants.gov”** is the “storefront” web portal which allows organizations to electronically find and apply for competitive grant opportunities from all Federal grant-making agencies. Grants.gov is THE single access point for over 900 grant programs offered by the 26 Federal grant-making agencies. http://www.grants.gov

**“Industry Interactive Procurement System (IIPS)”** is DOE’s Internet-based procurement system which allows access to DOE’s business opportunities database, allows user registration and submittal of Applications: http://e-center.doe.gov/.

"**Key Personnel**" means the individuals who will have significant roles in planning and implementing the proposed Project on the part of the Applicant and Participants, including FFRDCs.

**“Marketing Partner Identification Number (MPIN)”** is a very important password designated by your organization when registering in CCR. The E-Business Point of Contact will need the MPIN to login to Grants.gov to assign privileges to the individual(s) authorized to submit applications on behalf of your organization. The MPIN must have 9 digits containing at least one alpha character (must be in capital letters) and one number (no spaces or special characters permitted).

"**Participant**" for purposes of this Funding Opportunity Announcement only, means any entity, except the Applicant substantially involved in a Consortium, or other business arrangement (including all parties to the Application at any tier), responding to the Announcement.

"**Project**" means the set of activities described in an Application, State plan, or other document that is approved by DOE for Financial Assistance (whether such Financial Assistance represents all or only a portion of the support necessary to carry out those activities).

**"Proposal"** is the term used in IIPS meaning the documentation submitted in response to a Funding Opportunity Announcement. Also see Application.

**"Pure Edge Viewer"** is a small, free program which allows you to access, complete and submit applications electronically and securely through Grants.gov. You will not be able to access, complete, or submit an application through Grants.gov, unless the Pure Edge Viewer is downloaded on your computer. http://www.grants.gov/DownloadViewer.

**"PV Capacity Credit"** – A capacity credit for a PV system is a measure of the system's ability to effectively add to a utility's generation capacity and enhance utility system reliability. The "effective load carrying capacity (ELCC)" of a PV system represents its ability to effectively increase the generating capacity available to a utility or a regional power grid without increasing the utility's loss of load risk (Garver, 1966). For instance, a utility with a current peaking capability of 2.5 GW could increase its capability 2.55 GW with the same reliability by adding 100 MW PV, provided the ELCC of the 100 MW PV is 50 MW, or in relative terms, 50%. [Reference: Garver, L.L., (1966): Effective Load Carrying Capability of Generating Units. IEEE Transactions, Power Apparatus and Systems. Vol. Pas-85, no.8]

**"Recipient"** means the organization, individual, or other entity that receives a Financial Assistance Award from DOE, is financially accountable for the use of any DOE funds or property provided for the performance of the Project, and is legally responsible for carrying out the terms and condition of the award.

"**Selection**" means the determination by the DOE Selection Official that negotiations take place for certain Projects with the intent of awarding a Financial Assistance instrument.

**"Selection Official"** means the DOE official designated to select Applications for negotiation toward Award under a subject Funding Opportunity Announcement.

**"Subrecipient"** means the legal entity to which a subaward is made and which is accountable to the recipient for the use of the funds or property provided.

**"Substantial Involvement"** means involvement on the part of the Government. DOE's involvement may include shared responsibility for the performance of the Project; providing technical assistance or guidance which the Applicant is to follow; and the right to intervene in the conduct or performance of the Project. Such involvement will be negotiated with each Applicant prior to signing any agreement.

"**Total Project Cost**" means all the funds to complete the effort proposed by the Applicant, including DOE funds (including direct funding of any FFRDC) plus all other funds that will be committed by the Applicant as Cost Sharing.